

Financing – Overview

Description

Key Resources

- [DOE State and Local Solution Center: Financing for Energy Efficiency and Renewable Energy](#) provides a wealth of tactical information for state and local governments working to set up financing programs.
- [Energy Efficiency Financing Program Implementation Primer](#) provides an overview of considerations for designing and implementing successful energy efficiency financing programs for existing buildings in the residential sector.
- [Clean Energy Financing Programs: A Decision Resource for States and Communities](#) describes financing program options, key components of these programs, and factors for states and communities to consider as they make decisions about getting started or updating their programs.
- [Financing Program Decision Tool](#) provides information on the different types of financing available and helps users identify the best options for their program.
- [Glossary of Key Financing Terms](#) provides definitions of some key terms you are likely to encounter as you design and implement financing activities.
- [Better Building Residential Program Implementation Plan Template - Financing](#) will help you develop a strategy for planning, implement, and evaluating your financing activities.

Customer access to affordable sources of financing can be an important part of successfully converting interest in your program into a completed home energy upgrade. Financing can help homeowners afford an energy upgrade by allowing them to pay for the improvements incrementally over time. The financed costs of energy upgrades may even be partially or entirely offset by energy cost savings from the installed measures during the loan repayment period.

While many contractors have used financing to increase the sales of all types of home improvement projects, recently contractors have begun using financing to drive the sale of home energy upgrades. In the past, the energy efficiency industry relied primarily on rebates that pay for part of the cost of the energy upgrades to drive uptake. Financing applied to energy upgrades is a strategy that has begun to take hold over the last several years, with major new financing initiatives in California, Kentucky, Michigan, New York, Oregon, Pennsylvania, and many other states.

Financing can offer some key benefits to your program:

1. Financing allows your customers who don't have "cash in hand" to purchase energy upgrades, increasing overall uptake of energy efficiency measures in your community. Unlike rebates, financing can cover the full cost of an efficiency upgrade.
2. Financing allows your customers to purchase higher-cost upgrades than they might otherwise find possible, which can result in deeper energy savings. Early analysis of Recovery Act grantee finance programs show that those customers using financing consistently install larger projects with deeper energy efficiency savings than those without financing. With long term, fixed rate financing, consumers can benefit from low monthly payments.
3. Financing can help your contractors offer customers low monthly payments to make upgrades more affordable, thereby improving contractor closing rates. Financing also helps contractors expand the scope of work offered to customers and sell larger jobs.

Financing does, however, have limitations, and is not by itself a robust enough tool to make a residential energy efficiency program successful. Specifically:

1. Financing alone is not enough to increase demand. The primary barrier to energy efficiency adoption is often low customer demand for upgrades, not access to attractive capital. Homeowners must first be sold on the benefits of home energy upgrades before they become interested in financing options
2. Unlike rebates which are simpler to administer, financing requires a continuing relationship between a lender and a customer, and are based on stricter eligibility criteria. Lenders typically rely on credit-based underwriting to determine who is likely or unlikely to meet their loan repayment obligations; as a result, not all customers will qualify for and have access to financing.

3. Even if they do qualify for financing, not all customers will want or need it.
4. Only some lenders will want to offer consumer loans for the residential energy efficiency marketplace.

The Financing component handbooks offer the steps and background you need to design, operate, and evaluate your program's financing activities in partnership with your lenders, contractors, utilities, and other partners. The goal of these handbooks is to help you use financing tools to increase both the number and size of home energy upgrades in your community and achieve your program goals.

The Financing component provides your program with strategies to:

- Determine the need for home energy loans in your community based on a [market assessment](#), and [establish goals and objectives](#) to guide your financing activities.
- Identify and engage the most promising potential [lending partners](#).
- [Design financing activities](#) that help homeowners pay for the desired home energy upgrades.
- Develop an [implementation plan](#) that identifies workflows and defines the roles for your program, lenders, and contractors, as well as an [evaluation plan and metrics](#) to help you track and measure program progress.
- [Develop financing resources](#) that will enable you to perform the core functions of your program and [deliver financing](#) to homeowners in conjunction with other program components.
- [Learn and adapt your program](#) over time, and [communicate results](#) to relevant stakeholders.

The Financing handbooks describe several options that you can use to offer financing to homeowners. A common theme among all of these options is that they involve identifying and integrating partnerships with outside entities. For the most part, the options that the handbooks describe do not require that you create and operate your own loan products. Many lenders that operate in your own community, or maybe even nationally, can provide the financial services that will support your energy efficiency program designs. Your program can assist homeowners with energy efficiency financing in many ways. The most common services that programs have offered are:

1. Referring homeowners to an existing lender (e.g., bank, credit union, nonprofit lender) that offers appropriate loan products.
2. Providing homeowners with a comparison of existing financing programs and making recommendations for the most appropriate options.
3. Providing financial support (often called "credit enhancements" or "buy-downs") to lenders that are willing to offer loans at lower rates or better terms.
4. Working with contractors and lenders to provide a "dealer loan," under which the contractor offers the financing on behalf of the lender, eliminating the need for the homeowner to deal with an additional party (the lender).
5. Providing the lender with funds to be lent out to customers (referred to as providing a revolving loan fund).
6. Performing all of the functions typically performed by a lender: underwriting, origination, funding, and servicing.

While there are combinations of the above options, these six financing activity types represent the most common approaches taken by energy efficiency programs seeking to assist their homeowners with financing. Utilities can also be important partners for your residential energy efficiency upgrade program. Once financing programs are operational, your program can work with utilities to incorporate loan options into their outreach and activities. By building a relationship with utilities over time, you might find utilities willing to co-brand with your program, promote your program, or even allocate resources longer term.

As you move through the steps that these handbooks describe, keep in mind that financing is not a program in itself. Financing is a tool to support energy efficiency programs and enable customers to commit to a home energy upgrade. In order for your program to successfully drive uptake of energy efficiency measures, your financing activities need to be tightly integrated with all of the other parts of your program, including contractor networks, utility or other incentives, and outreach programs.

Stages

The following are important stages for successful program administrators to follow when implementing Financing activities; however, no two programs are the same, and program administrators need to take into account the unique aspects of their market to create the most effective approach possible. Select each stage to access its handbook.

1. [**Assess the Market**](#)
Determine how your target audience currently funds energy efficiency services, to what extent upfront cost is a barrier, and whether improvements to their financing options would increase the uptake of energy efficiency measures.
2. [**Set Goals & Objectives**](#)
Establish goals, objectives, and timeframes for your financing activities.
3. [**Identify Partners**](#)
Identify and partner with financial institutions that can provide capital, underwriting, and other functions to enable your customers to access financing.
4. [**Make Design Decisions**](#)
Determine if enhancements to existing financing products or the development of new products are necessary to allow you to achieve your goals and objectives.
5. [**Develop Implementation Plans**](#)
Develop a plan to implement your financing activities, with defined roles for financial institution partners, contractors, customers, and your program.
6. [**Develop Evaluation Plans**](#)
Establish an evaluation plan that will allow you to determine how your financing activities are impacting the market.
7. [**Develop Resources**](#)
Develop the procurement, outreach, and loan support resources required to perform your financing activities.
8. [**Deliver Program**](#)
Launch your financing activities in coordination with other program components.
9. [**Assess & Improve Processes**](#)
Focus on the continuous improvement of your financing activities by tracking and evaluating data, responding to feedback, and modifying strategies when needed.
10. [**Communicate Impacts**](#)
Communicate the results of your financing activities to internal and external partners.

Tips for Success

In recent years, hundreds of communities have been working to promote home energy upgrades through programs such as the Better Buildings Neighborhood Program, Home Performance with ENERGY STAR, utility-sponsored programs, and others. The following tips present the top lessons these programs want to share related to this handbook. This list is not exhaustive.

Offer financing to attract attention, but sell on the benefits of upgrades

Low-cost financing for home energy upgrades does not increase customer demand for upgrades on its own. A comprehensive [evaluation](#) of over 140 programs across the United States found that homeowners must be sold on the benefits of home energy upgrades before financing can become valuable to them. Programs interested in achieving high loan volume have promoted access to low-cost financing as part of a broader effort to make upgrades an attractive and worthwhile investment.

- Boulder County, Colorado's [EnergySmart program](#) learned that loans are an effective tool within a larger residential energy efficiency program, but a loan program on its own is not a solution. To sell home energy upgrades to homeowners, the program realized that access to low-interest financing was not enough to entice homeowners to make upgrades. Instead, the program focuses on messages that increase the awareness of upgrades as a path to homeowner benefits, such as comfort, health and safety, and reduced energy bills. The EnergySmart program also used energy advisors who helped homeowners understand their upgrade options, choose a contractor, and learn about available financing. Between October 2010 and September 2013, EnergySmart was designed, launched, and supported the completion of upgrades in more than 4,100 homes. Over \$1.7 million in energy loans were issued by EnergySmart between August 2012 when the loan product became available and September 2013, helping 150 homes and businesses overcome cost barriers to energy efficiency investment.
- When the [Greater Cincinnati Energy Alliance](#) (GCEA) began its program in 2011, there was little understanding of energy efficiency and its impact on individuals and business in the Greater Cincinnati region; therefore, community education on the value of energy efficiency was, and continues to be, a cornerstone of the GCEA's mission. The program's loan options are a tool to help facilitate home energy upgrades and are included in outreach initiatives, but selling homeowners on energy efficiency is the larger focus of the program. GCEA used a variety of outreach strategies to connect with the community, including a website with links to educational information including [financing options](#); educational sessions held at churches, schools, and libraries; a partnership with AmeriCorps in the summer of 2011 to provide door-to-door canvassing; regular business outreach and core business meetings with contractors; partnerships with local community events such as fairs and farmers markets; energy advisors who served as a resource for both homeowners and contractors; and traditional advertising (e.g., radio, newspaper, TV). GCEA aims to increase adoption of energy upgrades through marketing, education, quality customer service, and loans. In 2011, GCEA established the GC-HELP financing program to offer unsecured, fixed rate loans (6.99%, up to \$20,000 and 10 year terms) that can be used for specific home energy improvements or a whole home energy upgrade. As of September 2013, 127 residential loans (approximately 9% of home upgrade projects) had been issued, totaling more than \$1 million.

Hire staff with financing skills and knowledge

Financing can be a complicated topic for programs, and having staff with financing knowledge and expertise can be very valuable. Financing program administration involves working with lenders and understanding how they operate as well as understanding financial regulatory issues and loan product features. Several Better Buildings Neighborhood Program partners hired staff or consultants with financing skills and knowledge, which helped to launch programs more quickly and efficiently, and administer them effectively over time.

- [Enhabit](#), formerly Clean Energy Works Oregon, initially used a consultant to help design their financing products, which began with the pilot program through the City of Portland in 2009. Enhabit later hired a financing expert to serve as a lender relations manager to attract additional lenders and to create strategic partnerships that leverage private capital. Leveraging in-house expertise, the program created five lending partnerships with a CDFI, a regional bank, and three credit unions, which enabled more than \$50 million in capital for home upgrades. Enhabit staff understanding of bank and credit union financing, in addition to efforts to ensure compliance with required regulations, have been key factors in successfully attracting and retaining lenders. Through its network of pre-qualified contractors, the program is able to offer financing options that are convenient with competitive rates and flexible terms.
- [Michigan Saves](#) works to create a one-stop shop for energy efficiency financing through their Home Energy Loan Program. To facilitate a smooth process for both homeowners and participating lenders, Michigan Saves hired staff with financing expertise. Financing staff helped to attract and provide ongoing coordination with the nine credit unions currently participating in the program (as of early 2014). Staff work with participating credit unions to make adjustments to loan design and process (when needed), ensure that non-financial staff at Michigan Saves understand the program's loan offerings, and coordinate lending activities with participating contractors. Through June 2014, the Michigan Saves Home Energy Loan Program made more than 3,600 loans representing an investment of nearly \$30 million.

- [New Hampshire's Better Buildings program](#) relied heavily on staff financing expertise to create its successful program. New Hampshire's program was awarded to, and administered by, the New Hampshire Office of Energy and Planning (OEP). OEP contracted with the Community Development Finance Authority (CDFA) to assist with implementation of the project. CDFA staff managed homeowner outreach, and served as direct liaisons to local municipalities, utilities, property owners, lenders, auditors, and building contractors. New Hampshire's program included the use of loan loss reserves (LLR), interest rate buy-downs, and co-lending with local banks. Establishing the bank partnerships and agreements needed to implement these financing mechanisms was spearheaded and managed by a CDFA staff person with prior financial program experience. As the program moved beyond the Better Buildings grant period, OEP continues to rely on financing experts to provide guidance related to the LLR needed, the percentage of bad debt which the bank should write-off prior to charging the program, and current market interest rates. In total, ten local banks and credit unions made over 150 loans through their partnership with NH Better Buildings during the grant period of 2010-2013.

Design your financing activities to enable long-term sustainability

In order to overcome lenders' concerns over the risk associated with energy efficiency loans, many Better Buildings Neighborhood Program partners offered credit enhancements to lenders (e.g., loan loss reserve funds) to attract lender participation and to mitigate lender losses in the event of loan defaults. Over the long term, however, a thriving market for energy efficiency financing requires that lenders and capital providers operate without credit enhancements. In order for this to happen, lenders and capital providers need to understand that home energy lending can be profitable and that the risks are manageable. Several Better Buildings Neighborhood Program partners were able to prove the viability of energy efficiency lending.

- [Enhabit](#), formerly Clean Energy Works Oregon, took a sequential approach to designing for long-term sustainability through successfully engaging lenders in the program with credit enhancements, but removing these over time following evidence of success. In the process, Enhabit has unlocked millions of dollars of private capital while eliminating the need for program-funded lending support. During its program pilot, the City of Portland partnered with Craft3 to provide low-interest, long-term financing with utility on-bill repayment to program participants. Craft3 used bill payment history as a proxy for credit to help more homeowners qualify for loans. Loan defaults proved to be low from the outset, demonstrating the low risk associated with home energy lending. As Enhabit expanded its program throughout Oregon in 2011 and 2012, additional lenders joined the program. While loan fees and loan loss reserves were initially offered to some of these new lenders, Enhabit eliminated payment of all loan fees and loan loss reserves effective January 1, 2013, and still maintains a strong network of lending partners. Enhabit's strategy to remove credit enhancements over time has worked because program results (e.g., low defaults) demonstrate that home energy lending can be profitable to lenders while also providing them access to new customers from whom they can solicit additional business. In addition, lenders become more comfortable with lending for energy efficiency if measures are properly installed and deliver the promised savings (which helps ensure loans are repaid) so Enhabit's quality assurance has been an important factor in supporting the lending partners in non-financial ways. Between program launch in March 2011 and December 2013, Enhabit completed nearly 3,200 residential upgrades and 2,600 loans valued at \$33.4 million (through its lending partner, Craft3), generating \$49 million in local economic activity.
- The Maryland [Be SMART Multifamily program](#) utilizes a revolving loan fund initially capitalized with \$9 million to provide financing for energy efficiency upgrades in affordable multifamily apartment buildings. Leveraging their Better Buildings Neighborhood Program grant, the Be SMART Multifamily program team worked closely with property managers, owners, and developers to promote the value of energy efficiency in the multifamily housing community and succeeded in leveraging significant private and public capital to finance energy efficiency upgrades. The program's revolving loan fund allowed short-term loans for loan loss reserves for multifamily upgrade projects accompanied by rehabilitation work funded through Low Income Housing Tax Credits. These short-term loans facilitated several energy upgrade projects that would otherwise not have been possible. These loans also provided for a quick revolution of the loan funds, typically resulting in full repayment of the loan loss reserve within 24 to 36 months (with interest rates ranging from 1% to 4%). The short-term loans have been tremendously beneficial to the viability of the Be SMART Multifamily revolving loan fund, and have enabled program activities to continue at similar projected funding levels into calendar years 2014 and 2015. Between July 2010 and September 2013, the program financed nine projects representing 935 multifamily units. Projected annual energy savings from these projects is more than 3,600 Megawatt-hours (MWh) and more than 260,000 therms.

Help contractors understand the program's financing options and benefits, so they can communicate to homeowners

Homeowners do not benefit from access to financing if they don't know about or understand options available to them. Contractors are often the primary transaction point for selling upgrades, and many programs have found that ongoing collaboration with contractors through sales training, regular meetings, and requests for feedback can foster greater understanding and sales of program loan products. Some successful programs have staff in a contractor manager role to organize trainings, address questions and concerns, and overall coordinate relationships with participating contractors. Along with simplifying the financing application process, working with contractors to integrate financing into the home performance sales process avoids making financing another complicated decision point for customers.

[In Their Own Words: Empower Contractors to Sell Upgrades and Loans](#)



Source: U.S. Department of Energy, 2012.

[In Their Own Words: Make Financing Part of Your Sales Process to All Customers](#)



Source: U.S. Department of Energy, 2012.

- [EnergyWorks of Philadelphia](#) recognized that contractors can have a tremendous influence on homeowner decisions about how to pay for an energy upgrade. The program therefore trained contractors on how to effectively make affordability of energy efficiency a key part of every sales proposal and assessment. Contractors were also trained on how to better utilize special financing and monthly payment plans to increase both their closing rates and market penetration for more energy efficient home improvements. In addition, EnergyWorks provided contractors with program-sponsored technical training for BPI and RESNET certification, if needed, streamlined the energy assessment process and developed a consistent customer report template, and used an integrated software platform to provide maximum efficiency and customer service to contractors during loan/incentive origination, administration, payment, and reporting. Between 2010 and 2013, EnergyWorks helped finance over 1,900 residential upgrade projects, totaling more than \$17 million.
- [Enhabit](#), formerly Clean Energy Works Oregon, works with its contractors to provide business coaching, peer mentoring, business development classes, business accounting, and sales training. Supporting the development of these skills is a key factor in Enhabit's success. Trainings include discussion of Enhabit's loan offerings and eligible lenders, and how financing is a valuable tool to help drive sales. These trainings were well-received by contractors and helped them improve their business processes, making them more profitable. Between program launch in March 2011 and December 2013, Enhabit's [close relationship with its contractor partners](#) resulted in the completion of more than 3,000 upgrades. For more information on how Enhabit partners with their contractors, see the case study [Making the Program Work for Contractors](#).

- The [Greater Cincinnati Energy Alliance](#) (GCEA) recognized that the best way to drive demand for home energy upgrades was to involve local contractors that worked in homes on a daily basis. To that end, GCEA identified, trained, and mentored contractors who were interested in promoting the benefits of energy efficiency and saw it as a means to expand their business. Through a network of participating contractors, homeowners throughout Greater Cincinnati ultimately purchased energy efficiency upgrades and services totaling almost \$19 million. Between program launch in 2011 and November 2013, GCEA issued 127 residential loans, totaling more than \$1 million with no losses.
- In October 2010, [Austin Energy](#) rolled out its single-family residential energy "Best Offer Ever" promotion, a three-month special that combined rebates and no-interest loans for energy upgrades. Austin Energy offered [extra contractor training](#) on the financing to drive sales during the promotion. Once draft promotional plans were in place, Austin Energy hosted a breakfast meeting—getting on their Home Performance with ENERGY STAR contractors' schedules before they were out in the field for the day—to discuss the plans and collect feedback from the contractors. Contractors provided feedback on the launch plans, received sample forms, and were trained on how to use them. The contractors were also candid about their involvement in implementing the offer. Most contractors had not actively marketed financing options before, so Austin Energy walked the group through each party's role and responsibility in the loan process. Austin Energy also scheduled the promotion during the fall and winter, which is typically a slow season for building contractors in otherwise sunny and hot Texas—increasing the likelihood that projects would be completed in a timely manner while also helping contractors avoid seasonal layoffs. As a result of the promotion, a total of 568 participants received Home Performance with ENERGY STAR upgrades through 47 contractors in six months—more than 10 times Austin Energy's typical participation rate.
- As part of the [ShopSmart with JEA](#) program, Jax Metro Credit Union (JMCU) worked closely with contractors by holding regular meetings (monthly or quarterly) as well as lunch and learn opportunities to educate contractors on the loan options available. The credit union also did outreach to contractors or contractor associations in the community recognizing that the contractors would play an important role in selling benefits of the loan product. It was a long process, nearly 14 months, before the relationship between the credit union and the contractors was fully developed. From 2010-2012, ShopSmart with JEA completed 206 residential upgrades. JMCU members completed more than \$1.2 million worth of energy upgrades on 183 homes in the community, and JEA and JMCU financed nearly 90 percent of completed upgrades.

Examples

The following resources are examples from individual residential energy efficiency programs, which include case studies, program presentations and reports, and program materials. The U.S. Department of Energy does not endorse these materials.

Case Studies

[State Energy Efficiency Loan Programs](#) (901 KB)

Author: Alliance to Save Energy

Publication Date: 2009

This brief focuses on loan programs in 30 states that are currently providing low- to no-interest loans to finance energy efficiency improvements--from energy-efficient windows to replacement HVAC systems--in the residential, business, and public sectors.

[Help My House Loan Pilot Program: Program Design and Results](#)

Author: Central Electric Power Cooperative

Publication Date: 2013

This case study highlights the Help My House Pilot Program conducted in South Carolina by Central Electric Power Cooperative that included on-bill financing.

[NYSERDA's Green Jobs-Green New York Program: Extending Energy Efficiency Financing to Underserved Households](#) (373 KB)

Author: Lawrence Berkeley National Laboratory

Publication Date: 2011

Discusses innovative financing options designed to expand the accessibility of energy efficiency financing to households that typically do not qualify for traditional loans.

[Alternative Underwriting Criteria: Using Utility Bill Payment History as a Proxy for Credit: Case Study on Clean Energy Works Oregon \(now Enhabit\)](#) (340 KB)

Author: Lawrence Berkeley National Laboratory

Publication Date: 2012

This case study highlights Clean Energy Works Oregon's (now Enhabit) low interest, on-bill financing and alternative underwriting practices which have achieved a low rejection rate while also maintaining a low loan default rate.

[Selling an Energy Efficiency Loan Portfolio in Oregon: Resale of the Craft3 Loan Portfolio to Self-Help Credit Union](#)

Author: Lawrence Berkeley National Laboratory

Publication Date: 2014

This policy brief provides insight into the transaction of an on-bill energy efficiency loan portfolio between two mission-oriented lenders, Craft3 in Oregon and Self Help in North Carolina.

[Austin's Home Performance with ENERGY STAR Program: Making a Compelling Offer to a Financial Institution Partner](#) (369 KB)

Author: Lawrence Berkeley National Laboratory

Publication Date: 2011

This policy brief describes how Austin Energy's Home Performance with ENERGY STAR program worked with its lending partner, Velocity Credit, to originate almost 1,800 loans, totaling approximately \$12.5 million.

Program Presentations & Reports

[PSE&G Multifamily Housing Program](#) (566 KB)

Author: Rachael P Fredericks, PSE&G

Publication Date: 2013

This presentation provides an overview of PSE&G's Multifamily Housing Program, highlighting drivers, incentive structure, results, and lessons learned.

[Home Energy Affordability Loan \(HEAL\)](#)

Author: Martha Jane Murray, William J. Clinton Foundation

Publication Date: 2012

Presentation describing the Clinton Foundation's Home Energy Affordability Loan program.

Aggressive Underwriting and Smart Product Delivery: NYSERDA

Author: Jeff Pitkin, New York State Energy Research and Development Authority

Publication Date: 2012

Presentation describing NYSERDA's alternative underwriting approach for its target market.

Aggressive Underwriting and Smart Product Delivery: Keystone HELP

Author: Tessa Shin, AFC First Financial Corporation

Publication Date: 2012

Presentation describing AFC First's (a lender's) aggressive underwriting and smart product delivery as part of the Keystone HELP program.

Program Materials

Sample RFP: City of Independence, Missouri

Author: City of Independence, Missouri

Publication Date: 2010

A sample competitive procurement procedure to award loan loss reserve funds to a financial institution partner.

Toolbox

The following resources are available to help design, implement, and evaluate possible activities related to this handbook. These resources include templates and forms, as well as tools and calculators. The U.S. Department of Energy does not endorse these materials.

Templates & Forms

[Better Building Residential Program Implementation Plan Template - Financing](#) (2 MB)

Author: U.S. Department of Energy

Publication Date: 2015

The Financing Implementation Plan Template will help you develop a strategy for planning, operating, and evaluating your financing activities.

[Financing Program Goals and Design Template Presentation Deck](#) (818 KB)

Author: U.S. Department of Energy

Publication Date: 2011

Template for program administrators to fill out to help determine the goals and design of financing activities.

[DOE Template Financial Institution RFP](#)

Author: U.S. Department of Energy

Publication Date: 2010

A template competitive procurement procedure to award loan loss reserve funds to a financial institution partner.

[DOE Template Loan Loss Reserve Agreement](#)

Author: U.S. Department of Energy

Publication Date: 2010

A template agreement demonstrating how to address the deposit and use of loan loss reserve funds.

[DOE Template Program Agreement](#)

Author: U.S. Department of Energy

Publication Date: 2012

A template agreement that addresses the full energy efficiency or renewable energy loan origination cycle.

[Sample Residential Program Term Sheet](#)

Author: U.S. Department of Energy

A sample for defining and elaborating on the specifics of a clean energy loan program.

Tools & Calculators

[Financing Program Decision Tool](#)

Author: U.S. Environmental Protection Agency

The Financing Program Decision Tool is for state and local governments just starting their clean energy financing programs. The tool provides information on the different types of financing available and helps users identify the best options for their program.

[Better Buildings Financing Navigator](#)

Author: U.S. Department of Energy

Publication Date: 2017

The Better Buildings Financing Navigator is a web-based tool designed to help private and public sector organizations discover financing solutions for energy efficiency projects that meet their unique needs. Through the Financing Navigator, multi-family building owners, facility and energy managers, and other decision-makers can connect with financiers, including banks and financial institutions, to pursue energy-saving measures.

Topical Resources

The following resources provide additional topical information related to this handbook, which include presentations, publications, and webcasts. Visit [Examples](#) for materials from and about individual programs.

Topical Presentations

[Overview of the Role of Financing within an Energy Efficiency Program \(1 MB\)](#)

Author: Chris Lohmann, U.S. Department of Energy

Publication Date: 2011

Presentation that provides a summary of the role financing plays within energy efficiency programs.

[Residential Energy Efficiency Financing: Key Elements of Program Design](#)

Author: Chris Kramer, Energy Futures Group

Publication Date: 2012

Presentation on the key programmatic elements of financing initiatives.

[Program Management and Continuous Improvement for Financing Programs \(5 MB\)](#)

Author: Chris Lohmann, U.S. Department of Energy

Publication Date: 2011

Presentation providing an overview of financing programs, a strategy for continuous improvement, tools for program management, a risk management strategy, and common risks associated with financing programs.

[Peer Exchange Call Summary: Creative Financing Approaches for Residential Energy Efficiency Financing Programs](#)

Author: U.S. Department of Energy

Publication Date: 2015

This summary from a Better Buildings Residential Network peer exchange call focused on innovative financing approaches programs are using to support residential energy efficiency.

Publications

[DOE State and Local Solution Center: Financing for Energy Efficiency and Renewable Energy](#)

Author: U.S. Department of Energy

Publication Date: 2015

This website provides an overview of financing as it pertains to state, local, and tribal governments who are designing and implementing clean energy financing programs. Residential financing tools include residential PACE (R-PACE), on-bill financing and repayment, loan loss reserves and other credit enhancements, revolving loan funds, and energy efficient mortgages.

[Clean Energy Financing Programs: A Decision Resource for States and Communities](#)

Author: U.S. Environmental Protection Agency

Publication Date: 2011

This U.S. Environmental Protection Agency resource is intended to help state and local governments design finance programs for their jurisdiction. It describes financing program options, key components of these programs, and factors to consider as they make decisions about getting started or updating their programs.

[Energy Efficiency Financing Program Implementation Primer](#)

Author: State and Local Energy Efficiency Action Network

Publication Date: 2014

This report provides an overview of considerations for designing and implementing successful energy efficiency financing programs for existing buildings in the residential and commercial sectors. Information on key issues related to energy efficiency financing programs, guidance to existing resources that provide more in-depth financing program design and implementation information, and strategies for delivering broad customer access to attractive financing products that enhance customer capacity and willingness to invest in energy efficiency to address "first cost" barriers are included.

[Energy Efficiency Finance 101: Understanding the Marketplace](#)

Author: American Council for an Energy-Efficient Economy

Publication Date: 2011

This report examines the different types of financiers and their specific strengths, weaknesses, and areas of focus. Specifically, the paper addresses the different types of financing partnerships in the marketplace and offers a guide to their individual interests, risk tolerances, and place in the financial services industry.

Scaling Energy Efficiency in the Heart of the Residential Market: Increasing Middle America's Access to Capital for Energy Improvements

Author: Lawrence Berkeley National Laboratory

Publication Date: 2012

This policy brief describes the energy efficiency financing options programs can use to help financial institutions make energy upgrades affordable and accessible to homeowners.

Residential Retrofit Program Design Guide

Author: Oak Ridge National Laboratory

Publication Date: 2011

The Residential Retrofit Program Design Guide focuses on the key elements and design characteristics of building and maintaining a successful residential energy upgrade program. The material is presented as a guide for program design and planning from start to finish, laid out in chronological order of program development.

What Have We Learned from Energy Efficiency Financing Programs? (718 KB)

Author: American Council for an Energy-Efficient Economy

Publication Date: 2011

This report presents results, recommendations, and case studies of energy efficiency financing programs.

Recognizing the Benefits of Energy Efficiency in Multifamily Underwriting

Author: Deutsche Bank Americas Foundation

Publication Date: 2012

This report addresses a key bottleneck for private capital: lenders declining to underwrite energy efficiency loans for multifamily housing because they lack confidence in energy savings. It presents findings from an analysis of 230+ buildings, assesses total savings achieved and savings as a percentage of projections, and provides a starting point for an underwriting methodology.

United States Building Energy Efficiency Retrofits: Market Sizing and Financial Models

Author: The Rockefeller Foundation

Publication Date: 2012

This paper establishes the size of the potential retrofit market in the United States, and examines the emergence of new financing models that offer the promise of overcoming historical barriers to energy efficiency.

Options for Raising Capital (and Leveraging Public Funds) for Residential Energy Loan Programs

Author: Environmental Finance Center at The University of North Carolina at Chapel Hill

Publication Date: 2011

This publication outlines capital leveraging models and examples from across the country in which public funds were used to influence energy loan program capital.

Best Practice Guidelines for Residential PACE Financing Programs

Author: U.S. Department of Energy

Publication Date: 2016

This document provides updated best practice guidelines to help implement the Policy Framework for PACE Financing Programs, initially announced on October 18, 2009. DOE has developed these revisions to the original "Guidelines for Pilot PACE Financing Programs," initially issued on May 7, 2010, to reflect the evolving structure of the PACE market and incorporate lessons learned from various PACE programs that have been successfully implemented. The revised and updated guidelines focus specifically on best practices and guidelines for residential PACE financing programs.

Webcasts

Finance Planning

Author: U.S. Department of Energy

Publication Date: 2010

Presentation, Media (55 MB), Transcript

This webcast discussed the broad spectrum of needs financing mechanisms must address within integrated energy efficiency programs.

Financial Program Management for Continuous Improvement

Author: U.S. Department of Energy

Publication Date: 2011

[Media](#) (67 MB), [Transcript](#)

This webcast discussed financial program management.

Tools for Designing & Implementing Better Finance Programs

Author: U.S. Department of Energy

Publication Date: 2013

[Presentation](#), [Media](#), [Transcript](#)

Rather than selecting from two or three fixed models, a successful clean energy finance program will require a sponsor to make a number of design decisions, based on resources available and the needs of the community served. This webinar outlines these key areas for consideration (including potential program sponsors, institutional structure, and potential sources of program revenue) and examples of how organizations across the country have blended design decisions into successful programs.

Managing Financing Programs: Spreadsheet Models

Author: U.S. Department of Energy

Publication Date: 2011

[Media](#), [Transcript](#)

This webcast provides an overview of spreadsheet models available to help manage financing programs.

Common Search Topics

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The following list provides access to resources with more information on these key topics. Selecting a key topic will return a list of resources related to that topic. If you have suggestions for additional key topics, [please tell us](#).

- **Data Collection Agreements**

Establishing written data collection agreements will clarify data ownership, privacy, permission, types of data, and procedures for transferring data a program will obtain. Data collection agreements signed by homeowners are typically required for utilities to release billing data to a program or contractor; programs might also need to establish a formal agreement with lenders for any kind of data sharing. Program administrators are responsible for protecting consumer privacy and ensuring that all relevant parties use the appropriate forms, obtain data owner permissions, and avoid the release of confidential data.

- **Data Exchange Specifications**

Data exchange specifications help facilitate the transfer of data between software systems used by a program and its partners or stakeholders. A standard specification for transferring data reduces the need to develop a data transfer protocol each time two systems need to transfer information. One emerging example for transferring data collected during an in-home assessment to a program's software system is home performance XML (HPXML).

- **Energy Efficient Mortgages**

Energy efficient mortgages (EEMs) allow borrowers to include the cost of energy efficiency improvements in a mortgage. Lenders offer EEMs through allowing increases in the amount that a borrower can borrow relative to the property value and the debt that the borrower is eligible to carry relative to their income. The Federal Housing Administration and Fannie Mae offer versions of EEMs.

- **Financial Incentives**

By lowering the risk, decreasing the cost, or offering additional benefits, financial incentives (e.g., rebates, limited-time offers, special interest rates) can motivate potential or current customers to take a prescribed action.

- **Lenders**

The financial industry includes a range of lending institution types. These include community banks, credit unions, non-bank finance companies (leasing company or specialized financial institutions), national energy efficiency lenders, community development financial institutions, utility-partnering lenders, and state-chartered (state-level) bond authorities. Each lender type will have its own goals and unique perspectives with respect to financing residential energy efficiency upgrades.

- **Loan Loss Reserves**

Loan loss reserves are funds provided by third parties that offer partial risk coverage to lenders, meaning that they will cover a pre-specified amount or percent of losses from loans that default on payments. This loss coverage typically allows financial institutions to offer a lower interest rate or longer term to borrowers, as well as less restrictive underwriting requirements (e.g., higher application approval percentages) or both. Loan loss reserves have been used successfully to encourage financial institutions to offer products for financing energy efficiency and renewable energy projects.

- **Loan Origination and Servicing**

A loan is created through a series of procedural steps called origination. Steps include assembling the application file, issuing disclosures, underwriting the loan, processing the loan, producing required documents, collecting data, closing or settling the loan, and funding the loan. After a loan is closed, it is "boarded" (loaded into a database) and "serviced". Servicing consists of sending monthly statements or invoices to the borrower, processing "remittances" (payments), updating the loan information, and performing collection activities for loans that do not pay on time.

- **Loan Performance**

Loan performance refers to the rate at which loaned funds return to the lender, taking into account pre-payments (e.g., partial or complete payoffs made prior to their due date), delinquencies (e.g., late payments), and defaults (e.g., losses or payments late enough to be considered losses by the lender). Expected loan performance will drive lenders' decisions regarding interest rate, loan terms, and underwriting criteria, all of which influence customer uptake.

- **Loan Underwriting Standards**

The requirements that an applicant must meet to receive a loan are referred to as the underwriting standard. Underwriting standards are based on lenders' analysis of loan payment performance history that predicts annual losses from a portfolio of loans. Metrics for the analysis include individual borrowers' credit score, income, debt, and employment.

- **Multi-family Financing**

Financing needs in the multi-family sector are different from those in the single family sector, requiring innovative financing options because ownership structures are often more complex (e.g., multiple owners and mortgages) and equipment is shared among the tenants and owners (e.g., furnaces or boilers, common area lighting and facilities).

- **Non-Energy Benefits**

Energy efficiency programs provide identifiable benefits beyond energy savings, such as job creation, economic development, avoided emissions, and water savings. Quantifying these non-energy benefits may help program administrators demonstrate progress toward stated program and/or policy goals, or increase general awareness and support for program activities.

- **On-Bill Financing & Repayment**

On-bill financing (OBF) and on-bill repayment (OBR) allow energy efficiency improvements to be financed or repaid through the utility bill. With OBF, the improvements are funded by utility shareholder or ratepayer funds, and repaid by customers on their utility bills. With OBR, the improvements are funded by a third party and repaid on the utility bill. The payment obligation may be presented as a tariff and “attached” to the meter. This means that the payment obligation must be assumed by the account associated with the individual meter (i.e., whoever is responsible for payment of the utility bill) rather than a specific borrower.

- **Pilot Projects**

Many programs run pilot projects to gain direct experience in their markets, while testing and refining program design before full-scale launch.

- **Policies and Regulations Impacting Energy Efficiency Programs**

Public, private, and non-profit organizations often seek to work in partnership with investor-owned and municipal utilities to provide energy efficiency services. Utilities may already be offering energy efficiency services that other organizations can enhance or promote, and utilities typically have access to energy consumption data that helps track program success.

- **Process Flow Diagrams**

Process flow diagrams illustrate key steps, decision points, and interaction points between programs, contractors, and partners from home energy upgrade project inception to completion. They are an important tool for ensuring effective coordination at critical points in the assessment and upgrade process, and identifying opportunities to streamline program processes.

- **Program Dashboards**

A tracking tool for programs, dashboards summarize critical metrics for monitoring progress toward meeting program goals, objectives, and efficient program processes. For many programs, they are an important tool for assessing and improving programs over time and communicating results to partners and stakeholders.

- **Requests for Proposals**

A request for proposals (RFP) is often necessary to engage the services of a program implementation partner or third party evaluator. An RFP should have a well-defined scope of work and clear description of how proposals will be evaluated.

- **Revenue Streams**

Funding for organizational and program activities can come from a variety of sources including, but not limited to, ratepayer funds collected by utilities, grants (federal, state, foundation, etc.), and income from services provided to program participants or contractors. In many cases, individual revenue streams will have specific requirements on how the funding may be spent as well as specific reporting requirements.

- **Revolving Loan Funds**

A revolving loan fund is capital that is designated as funding for a specific purpose (e.g., to fund energy efficiency and/or renewable energy improvements). Typically, as loan repayments are received, those funds are consolidated and lent out to new borrowers, thus the revolving nature.

- **The Federal Housing Administration (FHA) PowerSaver Loan**

The PowerSaver loan is an energy-related home improvement loan offered under the FHA Title 1 home improvement loan insurance program. As of early 2014, this loan provides credit-worthy borrowers with low-cost, long-term funds to make energy efficiency improvements to their homes. The program supports lenders by offering insurance that covers 90% of the loss amount on loans up to \$25,000.

- **Working with Utilities**

Public, private, and non-profit organizations often seek to work in partnership with investor-owned and municipal utilities to provide energy efficiency services. Utilities may already be offering energy efficiency services that other organizations can enhance or promote, and utilities typically have access to energy consumption data that helps track program success.

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Links

- [1] <https://rpsc.energy.gov/handbooks/financing-%E2%80%93-assess-market>
- [2] <https://rpsc.energy.gov/handbooks/financing-%E2%80%93-set-goals-objectives>
- [3] <https://rpsc.energy.gov/handbooks/financing-%E2%80%93-identify-partners>
- [4] <https://rpsc.energy.gov/handbooks/financing-%E2%80%93-make-design-decisions>
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- [9] <https://rpsc.energy.gov/handbooks/financing-%E2%80%93-assess-improve-processes>
- [10] <https://rpsc.energy.gov/handbooks/financing-%E2%80%93-communicate-impacts>
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- [12] https://rpsc.energy.gov/handbooks/financing-%E2%80%93-overview#block-views-handbook_static_blocks-block_5